

Testimony

By

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To

Government Reform Committee

Hearing on

**Autism – Present Challenges, Future Needs – Why the
Increased Rates?**

04/04/00

Mr. Chairman, Honorable Dan Burton and members of the committee;

My name is Mary Norfleet Megson. I am a board-certified pediatrician, Fellowship trained in Child Development, a member of the American Academy of Pediatrics and Assistant Professor of Pediatrics at Medical College of Virginia. I have practiced pediatrics for twenty-two years, the last fifteen years seeing only children with Developmental Disabilities, which include learning disabilities, attention deficit hyperactivity disorder, cerebral palsy, mental retardation and autism.

In 1978, I learned as a resident at Boston Floating Hospital that the incidence of autism was one in 10,000 children. Over the last ten years I have watched the incidence of autism skyrocket to 1/300-1/600 children.¹ Over the last nine months, I have treated over 1,200 children in my office. Ninety percent of these children are autistic and from the Richmond area alone. The State Department of Education reports that there are only 1522 autistic students in the state of Virginia.

MHMR agencies have created local infant intervention programs, and have had a hard time keeping up with the numbers of delayed infants and toddlers. I have served as advisor to the City of Richmond and the surrounding counties have established entire programs for autistic children that fill multiple classes in several schools in each district. The segment of children with "regressive autism," the form where children develop normally for a period of time then lose skills and sink into autism most commonly at 18-24 months of age, is increasing at a phenomenal rate. I am seeing multiple children in the same family affected, including in the last week four cases of "autistic regression" developing in four year old children after their MMR and DPT vaccination. In the past, this was unheard of.

In the vast majority of these cases, one parent reports night blindness² or other rarer disorders which are caused by a genetic defect in a G protein,³ where they join cell membrane receptors, which are activated by retinoids, neurotransmitters, hormones, secretin and other protein messengers. G proteins are cellular proteins that upgrade or downgrade signals in sensory organs that regulate touch, taste, smell, hearing and vision. They are found all over the body, in high concentration in the gut and the brain;⁴ and turn on or off multiple metabolic pathways including those for glucose, lipid, protein metabolism⁵ and cell growth and survival.⁶ Close to the age of "autistic regression," we add pertussis toxin, which completely disrupts G Alpha signals.⁷ The opposite G proteins are on without inhibition leading to:⁸

1. Glycogen breakdown or gluconeogenesis. Many of these children have elevated blood sugars. There is sixty-eight percent incidence of diabetes in parents and grandparents of these children.

2. Lipid breakdown which increases blood fats that lead to hyperlipidemia. One-third of families has either parent or grandparent who died from myocardial infarction at less than 55 years of age and diagnosed with hyperlipidemia.
3. Cell growth differentiation and survival which leads to uncontrolled cell growth. There are 62 cases of malignancies associated with ras-oncogene in 60 families of these autistic children.⁹ The measles antibody cross reacts with intermediate filaments which are the glue that hold cells together in the gut wall. The loss of cell to cell connection interrupts apoptosis or the ability of neighborhood cells to kill off abnormal cells. The MMR vaccine at 15 months precedes the DPT at 18 months which turns on uncontrolled cell growth differentiation and survival.

One-third of families report colon cancer in the parents or grandparents.¹⁰ The genetic defect, found in 30-50% of adult cancers, is a cancer gene (ras-oncogene). It is the same defect as that for congenital stationary night blindness.¹¹

G protein defects cause severe loss of rod function in most autistic children.¹² They lose night vision, and light to dark shading on objects in the daylight. They sink into a "magic eye puzzle," seeing only color and shape in all of their visual field, except for a "box" in the middle, the only place they get impression of the three dimensional nature of objects. Only when they look at television or a computer do they predictably hear the right language for what they see. They try to make sense of the world around them by lining up toys, sorting by color. They have to "see" objects by adding boxes together, thus "thinking in pictures." Their avoidance of eye contact is an attempt to get light to land off center in the retina where they have some rod function. Suddenly mothers touch feels like sandpaper on their skin. Common sounds become like nails scraped on a blackboard. We think they cannot abstract, but we are sinking these children into an abstract painting at 18 months of age and they are left trying to figure out if the language they are hearing is connected to what they are looking at, at the same time.

The defect for congenital stationary night blindness on the short arm of the X chromosome affects cell membrane calcium channels¹³ which, if not functioning, block NMDA/glutamate receptors in the hippocampus,¹⁴ where pathways connect the left and right brain with the frontal lobe. Margaret Bauman has described a lack of cell growth and differentiation in the hippocampus seen on autopsy in autistic children.¹⁵ The frontal lobe is the seat of executive function, attention, inhibition of impulse, social judgement and all executive functions.

When stimulated, these NMDA receptors through G proteins stimulate nuclear Vitamin A receptors discovered by Ron Evans, et al Dec 1998.¹⁶ When blocked, in the animal model, mice are unable to learn and remember changes in their environment, they act as if they have significant visual perceptual problems, and have spatial learning deficits.¹⁷

Of concern the Hepatitis B virus, protein sequence was isolated in the gene for similar retinoid receptors (RAR beta),¹⁸ which is the critical receptor important for brain plasticity and retinoid signaling in the hippocampus.¹⁹ After the mercury is removed, I understand we will restart Hepatitis B vaccine at day one of life. Studies need to be done to determine if this plays an additive roll in the marked increase in autism.

I am using natural lipid soluble concentrated cis form of Vitamin A in cod liver oil to bypass blocked G protein pathways but, turn on these central retinoid receptors. In a few days, most of these children regain eye contact and some say their "box" of clear vision grows. After two months on Vitamin A treatment, these children, when given a single dose of bethanechol to stimulate pathways in the parasympathetic system in the gut, focus, laugh, concentrate, show a sense of humor, and talk after 30 minutes as if reconnected.²⁰

This improves cognition, but they are still physically ill. When these children get the MMR vaccine, their Vitamin A stores are depleted, they can not compensate for blocked pathways. Lack of Vitamin A which has been called "the anti-infective agent," leaves them immuno-suppressed. They lack cell mediated immunity. T cell activation, important for long term immune memory, requires 14-hydroxy retro-retinol. On cod liver oil, the only natural source of 14HRR, the children get well.

I live in a small middle class neighborhood with twenty-three houses. I recently counted thirty children who live in this community who are on medication for ADHD. One week ago, my oldest son who is gifted but dyslexic had twelve neighborhood friends over for dinner. As I looked around the table, all of these children, but one had dilated pupils. After two and one half months of taking vitamin A and D in cod liver oil, my son announced, "I can read now. The letters don't jump around on the page anymore." He is able to focus and his handwriting has improved dramatically. In his high school for college bound dyslexic students, 68 of 70 teenagers report seeing headlights with starbursts, a symptom of congenital stationary night blindness.

I think we are staring a disaster in the face that has affected thousands of Americans. The children with autism or dyslexia/ADHD are lucky. There are many other children not identified, just disconnected.

We must direct all of our resources and efforts to establish multidisciplinary centers to treat these children. Insurance companies should pay for evaluations, both medical and psychiatric, and treatment. These children are physically ill, immuno-suppressed with a chronic autoimmune disorder affecting multiple organ systems. Funding to look at etiology of autism, to identify children at risk prior to "autistic regression," and to prevent this disorder is imperative. Implementing vaccine policies that are safe for all children should become our first priority.

Mothers from all over the country have brought pictures of their autistic children to Washington this weekend. Most of these children were born normal and lost to "autistic regression." Look into their eyes and you will hear their silence.

Thank you

Mary N. Megson, MD

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